

WHAT IS CLAIMED IS:

- 1                   1.       A method for processing a transport stream, the method  
2 comprising:  
3                   (a) parsing the transport stream to derive multiple elementary substreams,  
4 each elementary substream including a received media access control (MAC) address;  
5 and  
6                   (b) comparing in hardware the received MAC address of a particular  
7 elementary substream against a plurality of stored MAC addresses.
- 1                   2.       The method according to claim 1, the method further comprising:  
2                   (a) parsing the transport stream to derive multiple data streams including  
3 associated program identifiers, each such data stream being associated with a plurality of  
4 the multiple elementary substreams;  
5                   (b) using the associated program identifiers and MAC addresses to  
6 determine corresponding transfer locations in a host memory; and  
7                   (c) performing direct memory access transfers of the multiple data streams  
8 and multiple elementary substreams to the corresponding transfer locations in the host  
9 memory.
- 1                   3.       The method according to claim 2, the method further comprising  
2 transferring the multiple data streams and multiple elementary substreams to an end user  
3 system.
- 1                   4.       The method according to claim 3 wherein the end user system  
2 comprises an audio-visual system and the step of transferring the multiple data streams  
3 and multiple elementary substreams is performed through an audio-visual interface.
- 1                   5.       The method according to claim 3 wherein the end user system  
2 comprises a networked computer system and the step of transferring the multiple data  
3 streams and multiple elementary substreams is performed through a network interface.
- 1                   6.       The method according to claim 5 wherein the end user system  
2 further comprises a world wide web browser.

1                   7.       The method according to claim 2, the method further comprising  
2 the step of filtering out unwanted elementary substreams associated with a particular data  
3 stream.

1                   8.       The method according to claim 1 wherein each of the stored MAC  
2 addresses is concatenated with an index and a disable bit.

1                   9.       The method according to claim 8 wherein the step of comparing in  
2 hardware the received MAC address of a particular elementary substream comprises:

- 3                   (a) masking a plurality of bits of the received MAC address; and  
4                   (b) iteratively comparing each of the unmasked bits of the received MAC  
5 address against the corresponding unmasked bits of each of the plurality of stored MAC  
6 addresses until a match is found.

1                   10.      The method according to claim 8 wherein the received MAC  
2 address comprises 48 bits and each of the stored MAC addresses comprises 48 bits.

1                   11.      A system for receiving and processing a transport stream, the  
2 system comprising:

- 3                   (a) a receiver configured to derive multiple elementary substreams, each  
4 elementary substream including a received media access control (MAC) address; and  
5                   (b) a hardware comparison engine within the receiver, the hardware  
6 comparison engine being configured to compare the received MAC address of a particular  
7 data stream against a plurality of stored MAC addresses.

1                   12.      The system according to claim 11, the system further comprising a  
2 direct memory access (DMA) transfer engine within the receiver, wherein the receiver is  
3 further configured to derive multiple data streams and associated program identifiers from  
4 the transport stream, each such data stream being associated with a plurality of the  
5 multiple elementary substreams, and wherein the DMA transfer engine is configured to  
6 initiate DMA transfers of the multiple data streams and multiple elementary substreams to  
7 the corresponding transfer locations in a host memory.

1                   13.     The system according to claim 12, the system further comprising  
2     an interface connected to the receiver configured to transfer the multiple data streams and  
3     multiple elementary substreams to an end user system.

1                   14.     The system according to claim 13 wherein the end user system  
2     comprises an audio-visual system and interface comprises an audio-visual interface.

1                   15.     The system according to claim 13 wherein the end user system  
2     comprises a networked computer system and the interface comprises a network interface.

1                   16.     The system according to claim 15 wherein the end user system  
2     further comprises a world wide web browser.

1                   17.     The system according to claim 2 wherein the hardware comparison  
2     engine is further configured to filter out unwanted elementary substreams associated with  
3     a particular data stream.

1                   18.     The system according to claim 11 wherein each of the stored MAC  
2     addresses is concatenated with an index and a disable bit.

1                   19.     The system according to claim 18 wherein the hardware  
2     comparison engine is configured to compare the received MAC address of a particular  
3     elementary substream against the plurality of stored MAC addresses by:

4                   (a) masking a plurality of bits of the received MAC address; and

5                   (b) iteratively comparing each of the unmasked bits of the received MAC  
6     address against the corresponding unmasked bits of each of the plurality of stored MAC  
7     addresses until a match is found.

1                   20.     The system according to claim 18 wherein the received MAC  
2     address comprises 48 bits and each of the stored MAC addresses comprises 48 bits.